REMARKS

In the advisory action, the Examiner indicated that the amendment of June 2, 2003, the Amendment after Final Rejection, would not be entered because it did not place the application in condition for allowance because the amended claims raised new issues that require further consideration, that is, the recitation that "the method is performed without substantial reduction in acceleration" is new and requires further search and consideration, and claims 11 and 12 depended on cancelled claim 10.

The present RCE is submitted to provide the Examiner with the opportunity to review and enter previously amended claims 1-9, subject them to the new search he deems necessary and thereafter consider them on the merits.

Claims 11 and 12 have been amended in the present amendment to correct the dependency, claim 11 no longer depends on cancelled claim 10, but now depends on claims 1 through 9. Claim 12 no longer depends on cancelled claim 10 but now depends on claim 11.

The Examiner in the advisory action argued that the Applicants' assertion that the claimed method produces unexpected results is not persuasion because the evidence provided in the specification does not appear to be commensurate in scope with the claim. "The claims are not limited to the specific fuels used in the examples in the specification."

Applicants respectfully disagree with this characterization.

The present claims are directed not to a particular fuel, per se, as a composition of matter, but to the discovery that high pressure common rail fuel injection diesel engines can be run at a reduced emissions output level using lower density fuels without

the loss in power one would normally expect from the use of such fuels in diesel engines.

As acknowledged in the present specification, it is generally known that low density fuels are environmentally desirable.

That the use of a low density fuel produces lower emissions is not unexpected.

However, from the literature it is also known that the use of lower density fuels in diesel engines is accompanied with a decrease in power. See accompanying communication by which is provided a copy of pages 340-344 of the Automative Fuels Handbook, published by the Society of Automotive Engineers, Inc., 1990, by Owen and Coley.

In that article, it is shown that fuel density is considered to be an important characteristic for fuel injection equipped diesel engines.

Specifically, at page 341 in Figure 14-12, it is shown that for DI and IDI engines, power decreases as fuel density decreases.

Thus, one of ordinary skill in the art with this art teaching before him would have no reason to expect that high pressure common rail fuel injection diesel engines would behave differently, that is, that such engines would not similarly exhibit power decrease when fueled with lower density fuels.

Quite unexpectedly, however, it has been discovered that the use of lower density fuels, as exemplified by the fuels demonstrated in the present specification, in high pressure common rail fuel injection diesel engines, does not result in the power

loss that would have been expected in diesel engines based on what is known from the literature.

The fuels used in the examples are representative of the type of fuels used in diesel engines, the UK LS ADO being an example of typical higher density fuels (0.8539 g/cm^3 for the particular sample), while the Swiss LS ADO, R-Improved ADO and Swedish Class 1 ADO are representative of the lower density diesel fuels (0.8251 to 0.8155 g/cm^3 for the particular samples).

Those three lower density fuels are merely exemplary of lower density fuels, but the performance observed for the high pressure common rail fuel injection diesel engine fueled on lower density fuels, that is lower emissions without significant power loss, is not limited to using those three particular fuels. With the teaching of the present specification before him, one of skill in the art would now know that it is possible to use lower density fuels, in general, in high pressure common rail fuel injection diesel engines to secure lower emissions without significant power loss.

There is no reason to limit the claims to the exact specifications of the three lower density fuels used in the examples. As was shown, emissions were reduced for all three such lower density fuels as compared against the UK LS ADO higher density fuel, and the use of all three lower density fuels were similarly characterized by no significant reduction in power, as evidenced by no significant reduction in acceleration in the high pressure common rail fuel injection diesel engine.

Consequently, it is believed that the examples, functioning as examples, fully support the claimed recitation and provide an adequate basis for stating that in the present method, the fuel is characterized by having a density of about 0.83 g/cc or less, a viscosity of about 3 cSt or less, and a sulfur content of about 0.05 wt% or less.

It is respectfully requested that the Examiner reconsider this case in light of the previously unentered amendment of June 2, 2003, the present comments, the article from the Automotive Fuels Handbook, that he allow the claims and pass the case to issue in due course.

Respectfully submitted,

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[X] Pursuant to 37 CFR 1.34(a)

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